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W&M Benchmark Study Update

By: Henry Oppermann

The NIST weights and measures (W&M) benchmark study is moving forward, and a contractor has been selected. WMD is very pleased with the proposal, particularly the analyses that have been proposed. A key objective for the study, based upon comments from the W&M Administrator Workshops held a couple of years ago, is to collect and analyze data that will permit jurisdictions to compare their programs to others. Additionally, this information will be used to respond to another need that has been suggested by W&M directors, that is, to develop descriptions of "model" W&M programs in many of the different disciplines in W&M regulation. The development of model W&M programs is not part of the study, but will be a project undertaken with W&M directors after the benchmark data have been collected and the study completed.

Since the award of the contract has just occurred, WMD has not talked with the contractor regarding the schedule of activities. It is expected that meetings will take place in the near future and preparations will be made to conduct the survey needed to collect the data that will form the foundation of the analyses. NIST hopes to use the information collected in the recent NCWM survey as part of the benchmark study. Economic and business statistics extracted from the Bureau of Census Economic Surveys are already on the WMD web site. The responses to the benchmark survey from W&M jurisdictions will be critical to update the economic statistics from the Bureau of Census. We seek the assistance and cooperation of the states to respond to the survey after the contractor converts the survey to a web-based system.

Focus Groups Provide Clear Insight

By: Henry Oppermann

This fall WMD hosted three focus group meetings to obtain input on several important issues from our stakeholders--industry, state W&M directors, and local W&M directors. The discussions included assessing the health of the national W&M system, identifying problems and recommending solutions to overcome them, collecting ideas on how the national W&M system could be more effective, and exploring how WMD can better align its goals and activities with those of its stakeholders to better meet the needs of the national system.

The discussions proved extremely interesting and useful, and a wealth of excellent ideas and assessments were raised. The number of problems identified and the number of good recommendations made were impressive. Many of the issues will need extended discussions in order to expand the ideas and explore alternatives to address the needs. The challenge now is to determine the best action to take and how to work with others to implement the actions needed to strengthen the national weights and measures system. While no attempt was made in the meetings to obtain consensus on any of the issues, some themes were common in all of the meetings. Following are a few of the common issues –

Some of the main problems are:

- The lack of uniformity in W&M requirements, their application, and their interpretation;
- The lack of funding to support W&M regulatory activities;
- The lack of public and legislative awareness and appreciation of the value of the work performed by W&M officials to promote consumer protection and fair competition;
- The high turnover of W&M inspectors due to low salaries relative to jobs requiring similar knowledge and skills;
- The use of W&M enforcement as the basis for revenue generation; and
- Enforcement action based on too little information, particularly regarding the net contents of packages.

Some of the recommendations made are:

- Develop more training material and hold more training to promote greater understanding and application of requirements;
- Better documentation of rationale for decisions made in the standards development process;
- Create "best practices" for industry to improve their ability to comply with requirements;
- Identify and develop new approaches in W&M inspection and enforcement to enable more work to be done with fewer resources;
- Develop a means to capture and share inspection results on a national basis;
- Establish a better work relationship among the National Conference on Weights and Measures and NIST;
- NIST should play a stronger leadership role in the development of standards, technical issues, and training;

- Develop common national and international standards in legal metrology;
- Develop a model W&M program in the many disciplines of W&M;
- Develop a certification program for W&M officials; and
- Develop a NIST-assessment program for W&M programs.

There are many actions that could be taken to respond to the problems and recommendations mentioned above, and many more ideas were discussed than what can be listed here. WMD plans to continue to explore possible actions and ways in which we can work together with our stakeholders so that we can work together to achieve our mutual objectives to strengthen the national W&M system.

Definition of Premium Diesel Fuel Gets an Overhaul

By: Kathy Dresser

Thanks to the tremendous work done by the Premium Diesel Work Group, the L&R Committee overhauled the definition of premium diesel fuel, which was adopted by the NCWM at this year's conference.

The former cafeteria-style approach to labeling premium diesel fuel had been an issue for many jurisdictions for a number of years. Previously, refiners only had to meet any two of the five requirements to label their products as "premium". Potentially, this resulted in two very dissimilar products bearing the same name.

The new definition for premium diesel sets forth four requirements that all diesel fuels must meet in order to be labeled as premium. It eliminates the "energy content" and highly controversial "fuel injector cleanliness" requirements, while adding "lubricity" as a factor. An added bonus to the single definition is that it eliminates the need for extensive labeling of properties. To promote uniformity, the ASTM Standard Test Methods for thermal stability and lubricity have been incorporated.

The L&R Committee wishes to recognize and thank the members of the Premium Diesel Work Group for their contributions: R. Jennings, Tennessee; R. Leisenring, Jr, Chevron Texaco; C. Cooney, Oregon; L. Cunningham, Ethyl Corporation; D. Daniels, Octel-Starreon; C. Yarnold, ONDEO Nalco; D. Harvey, Citgo Petroleum; R. Hayes, Missouri; M. Herman, Herman & Associates; G. Mittermaier, Petroleum Marketers; M. Nikanjam, Chevron Products Co.; J. Peeples, AAE Technologies, Inc; D. Smith, North Carolina; and N. Strete, Lubrizol Corp.

For further information, contact Kathy Dresser at 301-975-3289 or by email at kathryn.dresser@nist.gov.

New Subcommittee Established

By: G. Diane Lee

The National Type Evaluation Technical Committee, Grain Moisture Meter (GMM) and Near Infrared (NIR) Grain Analyzer Sector meetings were held in Kansas City, Missouri, August 20-22, 2003. During the GMM Sector's discussion of Agenda Item 3, Type Evaluation and Ongoing Calibration Program Issues, a subcommittee was formed to review NTEP grain moisture meter accuracy and to assess the uniformity of these meters in relation to each other and the reference method.

The current type evaluation approval tolerance for moisture meters is one-half the acceptance tolerance. The tolerances used to require a calibration change includes a 95 percent confidence interval to avoid forcing a change in calibration when sufficient data is not available. NTEP GMM meters are required to meet the approval tolerance over a 6 percent moisture range. A look at the current status of the meters will help to determine if the tolerances are appropriate and provide information on the uniformity of the system.

For additional information concerning the subcommittee activities contact G. Diane Lee by phone at 301-975-4405, by fax at 301-926-0647, or by e-mail at diane.lee@nist.gov

Decline in Number of W&M Jurisdictions

By Lynn Sebring

For years "750" has been the mystical number touted as the number of weights and measures jurisdictions in the United States. According to a recent analysis of the NIST Weights and Measures Division database, that number has shrunk to 623, including the 50 state jurisdictions, the District of Columbia, and the 5 U.S. territories.

The drop in the number of jurisdictions performing weights and measures activities can be attributed to a variety of reasons. Most notably, decreases in program budgets have caused some jurisdictions to combine their resources with neighboring jurisdictions; in other cases, the elimination of a program has forced one jurisdiction to take over inspections for another jurisdiction.

While the types of inspections being performed have increased—for example, e-commerce and price verification are relatively new types of inspections—the number of inspectors and jurisdictions have decreased, and today's weights and measures programs are prime examples of "doing more with less."

NVLAP Accredited State Laboratories

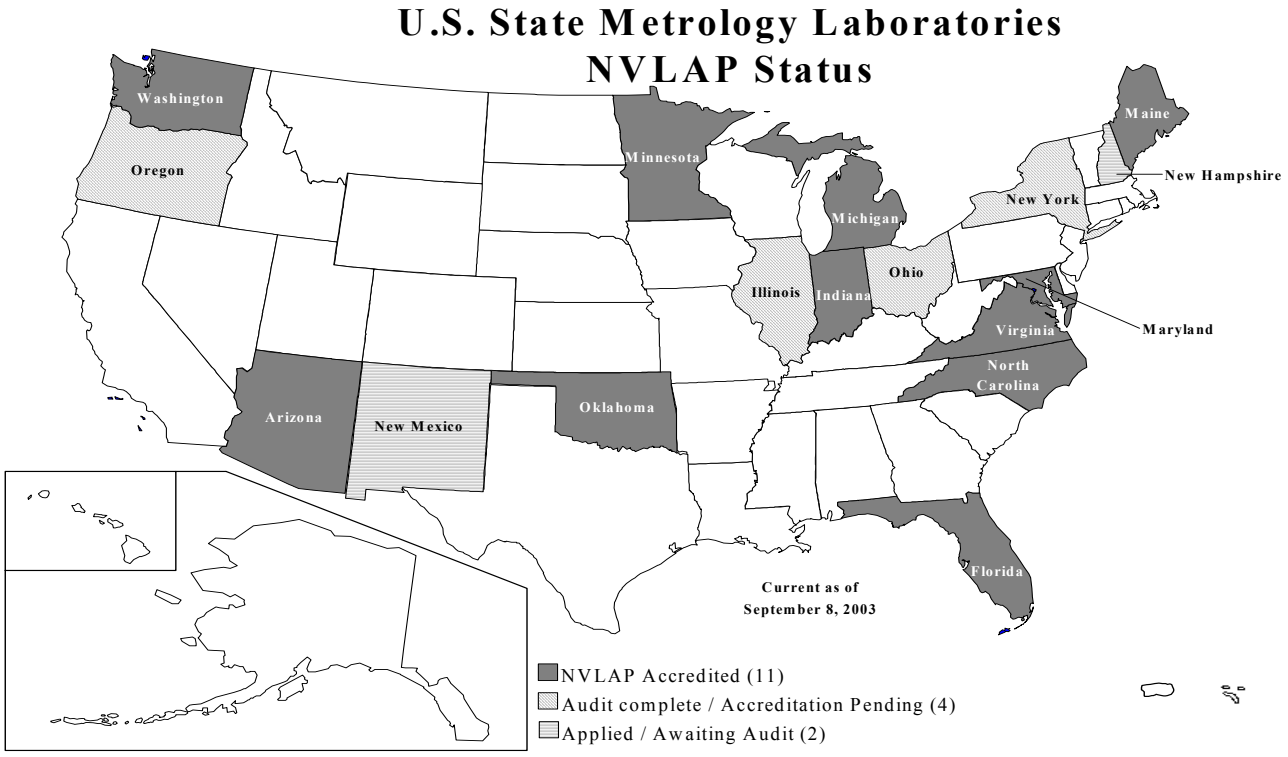
By: Val Miller

WMD regularly encourages State laboratories to apply to NVLAP during the annual review process. Currently, 11 State laboratories have been NVLAP accredited, with 4 more in the application process, and 2 more who have recently applied (see map on page 3). As a reminder, the NIST Weights and Measures Division pays for NVLAP accreditation of State laboratories to support the foundation needed for legal metrology enforcement.

A number of scale service organizations have achieved accreditation to ISO/IEC 17025 and are in search of a provider of accredited calibration services. We are privileged to provide the map below showing those State standards laboratories that have achieved or are seeking ISO/IEC 17025 compliant accreditation status through the NIST National Voluntary Laboratory Accreditation Program (NVLAP).

NVLAP provides an unbiased third-party evaluation and recognition of performance, as well as expert technical guidance to upgrade laboratory performance. NVLAP accreditation signifies that a laboratory has demonstrated that it operates in accordance with NVLAP management and technical requirements pertaining to quality systems, personnel, accommodation and environment, test and calibration methods, equipment, measurement traceability, sampling, handling of test and calibration items, and test and calibration reports. NVLAP accreditation does not imply any guarantee (certification) of laboratory performance or test/calibration data; it is solely a finding of laboratory competence. A laboratory may cite its accredited status and use the NVLAP logo on reports, stationery, and in business and trade publications provided that this use does not imply product certification.

Questions concerning the accreditation status of State standards laboratories may be directed to NVLAP or can be viewed on the Internet at www.nist.gov/nvlap.



Slide courtesy of Diane Lee 4/2003

Controversial Items Returned to L&R Committee

By: Kathy Dresser

At this year's NCWM Annual Conference the L&R Committee had two of its four voting items returned for further consideration. Items are returned to the Committee when they fail to receive the minimum number of votes necessary to be either adopted or defeated.

Item 232-1 was a proposal to amend NIST Handbook 130 to specifically require that Stored Tare Weights be: (1) determined to the nearest scale division, (2) clearly identified as "stored tare" on weight certificates, and (3) verified at regular intervals. The proposal was intended to help ensure the accuracy of stored tare weights. Many buyers and sellers who conduct regular transactions using the same vehicles over the same scales appreciate the efficiency of using a stored tare weight. The problem is that these tare weights are rarely, if ever, rechecked for accuracy after they're originally determined. (Modifications, repairs, and other factors can change the tare weight of a vehicle over time.) Although several concerns were voiced regarding this issue, they all seemed to boil down to jurisdictions believing that this regulation was unnecessary. This item provided no additional enforcement authority since action on incorrect tares can already be

taken based on the resulting inaccurate net weight. In addition, some jurisdictions were concerned about the ambiguity of verification at "regular intervals". Originally proposed by the Southern Weights and Measures Association last year, this is the second time this item has been returned to the Committee after a vote.

Item 237-6 was a proposal to amend Handbook 130 to require that diesel fuel dispensers be equipped with nozzles that are larger than those used for unleaded fuels. The proposal was intended to help prevent consumers from mistakenly putting diesel fuel into the tanks of vehicles designed to run on unleaded. This item was controversial largely because many jurisdictions considered it unnecessary. Handbook 130 already requires diesel fuel dispensers to be clearly labeled. Concern was also recently voiced that not all diesel vehicles may have fill pipes that can accommodate the larger nozzle size. Originally proposed by the Southern Weights and Measures Association in 1997, this item has remained on the agenda and been returned to the Committee every year since its introduction.

The L&R Committee will be reconsidering these items at the NCWM Interim Meeting in January 2004. At that time the Committee will have to decide whether or not to keep these items for further consideration, or withdraw them from its agenda. Conference members are encouraged to submit comments and recommendations to the regional associations, or to the Chairman of the L&R Committee. For further information, contact Kathy Dresser at 301-975-3289 or by email at kathryn.dresser@nist.gov.

WMD Presents Instructor Training on Retail Motor-Fuel Dispensers

By: Tina Butcher

On August 4-8, WMD's Dick Suiter and Diane Lee conducted an instructor-training seminar on retail motor-fuel dispensers in Little Rock, Arkansas. Gordon Johnson, Gilbarco, Inc., also attended and presented information on Gilbarco retail motor-fuel systems and audit trails.

Twenty-six members of the Arkansas Bureau of Standards staff participated in the training. Arkansas staff will use this training and the related course material to provide training to all its retail motor-fuel service technicians by January 2004.

USNWG for Scales Update

By: Steve Cook

A meeting of the NIST U.S. National Work Group (USNWG) for R76 – Non-automatic Weighing Instruments was held August 25-28, 2003, in Baltimore, Maryland. The meeting provided attendees an opportunity to provide NIST with technical positions and information useful for the development of U.S. positions on international recommendations for weights and measures equipment and activities. Attendees included staff from NIST (Weights and Measure Division and Force Group), the NTEP Director, NTEP Chairman and past Chairman, the Scale Manufacturers Association, and other scale manufacturers. Additionally, the Ohio, Maryland, New York, and California NTEP participating laboratories were represented. The following is a brief summary of the meeting and how this may or may not affect NIST Handbook 44.

The range of topics included a review of John Elengo's document that compared NIST Handbook 44 (General and Scales Codes), NCWM Publication 14, OIML R76, and R60 for Load Cells. Discussion also included recommendations to align R76 with NIST Handbook 44 and NCWM Publication 14, a review of international terminology, the impact of identified differences on the Mutual Acceptance Arrangement on Handbook 44 and Publication 14, and discussions on identifying or separating type evaluation and laboratory procedures from field test procedures in Handbook 44. There were no discussions on amending NIST Handbook 44 suitability and other user requirements.

The USNWG reviewed and confirmed many of the recommendations in the John Elengo document and made suggestions on how to proceed. Many of the recommendations in the document can be accomplished by amending parts of NCWM Publication 14 without changing Handbook 44, such as incorporating OIML R60 load cell testing procedures and report forms while retaining U.S. marking requirements, technical policies, and the way data is analyzed to verify compliance with Handbook 44 Scales Code tolerances. The Sector still needs to address some minor differences, such as averaging test results and load cell selection guidelines.

The USNWG will develop recommendations for international consideration where the group believes Handbook 44 language would improve R76. The group identified Handbook 44 language for ratio tests, subsequent verification, and the differences between Handbook 44 basic tolerances and OIML initial and subsequent verification tolerances for incorporation into the next edition of R76. Although OIML R76 provides similar tolerance for subsequent verification (in use) tolerances, it provides no guidance of applicable tolerance for equipment placed in service more that 30 days prior to official inspection or returned to service after official rejection. Additionally, the USNWG believes that Handbook 44 language for tolerance application on multi-interval, multiple range instruments, and voltage testing for DC power supplies is clearer than the R76 document.

The USNWG will also develop recommendations for amendments to NIST Handbook 44 in the following areas: overcapacity indications (+ 9 d for all scales instead of 105 %), leveling clarifications for portable scales and scales "liable to be tilted," shift tests for bench/counter scales, elimination of the fourth tolerance step for Class III and IIII weighing instruments, aligning creep tests, and clarification of tests and

tolerances applicable to laboratory and type evaluation testing.

Handbook 44 definitions and international terminology were identified as significant areas for improvement to Handbook 44. This is especially important for the pending Mutual Acceptance Arrangement where it is imperative that all parties are aware and understand each other's requirements. For example, the Handbook 44 term "automatic zero setting" has an entirely different meaning in R76. Handbook 44 is inconsistent in the use of division, increment and interval. The use of international terminology may also eliminate the confusion of the use of other Handbook 44 terms such as device, element, mechanism, scale, weigher, balance, and system. The group will submit a proposal to add terms from R76 to existing terms in Handbook 44 where the definitions are equivalent to the NCWM Specifications and Tolerance Committee. Additional international definitions have been identified for existing Handbook 44 terms that have no definition in Appendix D.

The use of the unique Class III L was also discussed by the USNWG. During the discussion, it was acknowledged that the Handbook 44 allowance of several intervals for tolerance continues to facilitate the misconception by users that an instrument's resolution relates to its accuracy and is inconsistent with other Handbook 44 accuracy classes. The group agreed that there is no technical reason for the difference, however, there is no technical or marketing barrier to trade for vehicle and other Class III L weighing instruments since the allowable errors in terms of mass, whether using 20-, 50-, or 100-lb intervals, are fairly equivalent. Additionally, some of the manufacturers reported that most other countries do not require R76 type evaluation for vehicle and other heavy capacity scales since the countries, including Canada, accept an engineering analysis of the design and conduct a thorough initial verification.

I would like to take this opportunity to thank all the participants at the meeting for their input and participation. I look forward to their continued participation, assistance, and cooperation. Please contact me at steven.cook@nist.gov if you have any questions or are interested in participating in the USNWG. Meeting attendance is not required since many of the discussions and member participation takes place using emails, conference calls, and even written correspondence.

NIST Handbook 105-8 Nears Completion

By: Val Miller

NIST Handbook (HB) 105-8 is nearing completion. New technical questions delayed release of this handbook, but they have been addressed and we are now nearing release of this document.

Weight carts, though identified in NCWM Publication 3 as being unsuitable for use as field standards, were seeing wide spread use across the United States. In the 1999 State Laboratory Program Workload Survey conducted by the NCWM Metrology Subcommittee, it was reported that thirty State laboratories calibrated 297 weight carts. The 2003 Workload Survey reported 388 weight carts were calibrated. Obviously, weight carts have been used as field standards, though no documentary standard existed for their design.

In September 2001 the NIST Weight Cart Working Group met to discuss the feasibility of using weight carts as field standards and ultimately created NIST HB 105-8, Specifications and Tolerances for Field Standard Weight Carts, planned for release in September 2003.

HB 105-8 is needed to address the potential errors that were discovered during weight cart calibrations and to gain compliance with NIST Handbook 44, Fundamental Considerations, Appendix A, section 3.2, Tolerances for Standards, during scale tests where weight carts were used. Section 3.2 states "*The error in a standard used by a weights and measures official should be known and corrected for when the standard is used; or if the standard is to be used without correction, its error should be not greater than one-third of the smallest tolerance to be applied when the standard is used.*"

The NIST Weight Cart Working Group identified the major sources of mass error in current weight cart designs and developed suitable compromises between ideal metrological requirements and routine use as field standards. NIST HB 105-8 provides guidance to weight cart manufacturers and users for constructing and maintaining a field standard weight cart that is capable of providing compliance with the Fundamental Considerations during scale tests.

Other than mass errors contributed by the weight cart operator through improper use or maintenance, the working group identified the fuel tank and the fuel it contains as being the most significant source of error for liquid-fueled weight carts. The errors caused by the fuel tank and fuel result from two sources. The first error source is related to the weight cart user's ability to maintain the fuel at the reference level by replacing expended fuel. The typical weight cart fuel tank has a capacity of three to six gallons. This large capacity causes the fuel tank to have a relatively large cross-sectional area so that a change in the fuel level of 0.25 in results in an error of approximately 1 lb. Due to vibration caused by the engine and motion of the weight cart, observing a 0.25 in variation in fuel level is quite difficult under the best of circumstances. Far too often the expended fuel is not replaced until the resulting error is much more significant than that caused by a 0.25 in fuel level variation. It has even been reported that weight cart operators were boasting about how many scales they could test on a single tank of fuel. Errors in scale test loads resulting from improper maintenance of fuel levels may be as much as 40 lb. This error is significantly beyond that permitted by the Fundamental Considerations.

The second source of error due to the fuel tank and fuel results from temperature deviations from the temperature at which the weight cart was calibrated. The weight cart is calibrated in a laboratory environment at approximately 21 °C

(70 °F) and the fuel is adjusted to the fuel tank reference level at that temperature. Due to the change in density of the fuel caused by temperature changes, a 21 °C (38 °F) change in the temperature of the fuel will result in an error of approximately 0.17 lb/gal of fuel in the tank, even though the fuel level is maintained at the reference level.

The Working Group considered a number of ways to minimize errors due to fuel issues. These included a removable fuel tank that the operator would carry off the scale at each test load, to using thermometers and charts to calculate a correction for the fuel expended and the change in temperature. It was decided that the most sensible solution was to limit the amount of fuel contained in the fuel tank to a maximum of 1 gal, thus minimizing the error caused by temperature changes to a maximum of 0.17 lb and also limiting the maximum error due to expended fuel to approximately 6.2 lb. Additionally, the fuel tank must be equipped with a sight gage and scale plate graduated in 0.5-lb increments so that as fuel is expended, an error weight can be installed on the weight cart to replace the weight lost. Thus, weight carts will have a fuel tank similar to a volumetric prover, graduated in 0.5-lb increments appropriately spaced for the fuel used, and will come equipped with a set of 0.5-lb error weights that will be used to offset fuel expended during a test. This will result in a maximum deviation of approximately 0.7 lb due to fuel issues. Again, a major goal is to minimize errors to enable compliance with HB 44 Fundamental Considerations.

NIST HB 105-8 will be available through the normal NIST publication channels, as well as in PDF format from the www.nist.gov/labmetrology web site.

Printed Receipts at Retail Service Stations

By: Tina Butcher

WMD periodically receives inquiries about the NIST Handbook 44 requirements for printed receipts issued at retail service stations. There are several paragraphs in the Liquid-Measuring Devices (LMD) Code of Handbook 44 that address printed receipts in this application.

- **Paragraph S.1.1. General,** which addresses general requirements for indicating and recording elements.

- **Paragraph S.1.6.7. Recorded Representations**, which addresses requirements for retail transactions conducted with retail liquid-measuring devices activated by debit cards, credit cards, and/or cash or with point-of-sale systems interfaced with retail liquid-measuring devices.

- **Paragraph UR.3.4. Printed Ticket**, which addresses required information on printed tickets issued by liquid-measuring devices.

Outlined below is an interpretation of each paragraph.

Indicating and Recording Elements, Paragraph S.1.1. General

A liquid-measuring device is required to be equipped with a primary indicating element. While it is permissible for a liquid-measuring device to be equipped with a recording element such as a ticket or receipt printer, a recording element is not generally required. Note, however, that there are some instances (such as those addressed in LMD Code Paragraph S.1.6.7.) in which a printed receipt is required.

If a liquid-measuring device is equipped with a recording element, there are other LMD Code and General Code requirements in the Handbook that apply regarding clarity, legibility, and content of the printed information.

Operating Requirements, Retail Devices, S.1.6.7. Recorded Representations

Paragraph S.1.6.7. requires that a printed receipt be provided for retail liquid-measuring device transactions (for example, gasoline dispensers at retail service stations) conducted with point-of-sale systems or with retail liquid-measuring devices activated by debit cards, credit cards, and/or cash. The receipt may be provided through a printing device built into the liquid-measuring device, for example, a receipt issued by a card reader and receipt printer built into the dispenser. Alternatively, a separate recording element interfaced with the measuring system may be used to generate the receipt, for example, a receipt printer interfaced to a control console or a point-of-sale electronic cash register that receives transaction information transmitted from the gasoline dispenser. In either case, the printing element is interfaced with and is considered to be part of the liquid-measuring device system.

Paragraph S.1.6.7. requires that the following information be included on the receipt:

- the total volume of the delivery,
- the unit price,
- the total computed price, and
- the product identity by name, symbol, abbreviation or code number.

An exception to this requirement is made for fleet sales and other price contract sales (see Handbook 44 Appendix D, Definitions for a definition of contract sales).

Use of Device, UR.3.4. Printed Ticket

This paragraph specifies the information that must be included on a printed ticket that is issued by a measuring device and contains some transaction information. Paragraph UR.3.4. requires that the printed ticket include the total price, the total volume of the delivery, and the price per gallon or liter. In some cases, a liquid-measuring device may print only one or two of these values. In such cases, the remaining value or values may be written on the receipt by the user in hand script.

This paragraph alone does not require a liquid-measuring device to be equipped with a printer nor does it require the user to provide a printed ticket. This paragraph simply specifies the information that must be included on a printed ticket if the liquid-measuring device issues a printed ticket.

Note that this paragraph does not apply does not apply to bankcard readers or other recording elements that are separate from the dispenser (i.e., that are not interfaced with a retail motor-fuel dispenser, console, or other portion of the measuring system).

For questions about the requirements for printed receipts at retail service stations, contact Tina Butcher by e-mail at tbutcher@nist.gov or by telephone at 301-975-2196.

OIML R59 "Moisture Meters for Cereal Grain and Oilseeds"

By: G. Diane Lee

An OIML working group meeting will be held in Beijing, China, October 15 and 16, 2003, to discuss the revisions to OIML R59. The revisions to R59 are based on NIST Handbook 44 Grain Moisture Meter Code Section 5.56(a) and the National Type Evaluation Program criteria for Grain Moisture Meters. The 1st Committee Draft of OIML R59 was circulated to the United States National Working Group (USNWG) members and the comments from the USNWG were provided to the Secretariat (China). If you are interested in participating on the USNWG for R59 or other grain moisture documents and have not responded to previous notices for participation, please forward your full name and title, your organizations' name, mailing address, fax and telephone number and e-mail to G. Diane Lee by phone at 301-975-4405, by fax at 301-926-0647 or by e-mail at diane.lee@nist.gov.

ASTM F10 Committee Work Progresses

By: Dick Suiter

[Editor's Note: Any mention of commercial products within this publication is for information only and does not imply recommendation or endorsement by NIST.]

The initial work of ASTM Committee F10 on Livestock, Meat, and Poultry Evaluation Systems is progressing and nearing completion. The Committee's task is to develop standards for the design, performance, use, and predictive accuracy of devices currently being used or being tested for evaluating various constituents to determine the value of an animal carcass at the time of harvest (slaughter).

Within the main F10 Committee are four subcommittees: F10.10 Design Specification, F10.20 Device Performance Criteria, F10.30 User Requirements, and F10.40 Predictive Accuracy. Each subcommittee has developed a draft standard to address one area of the entire measurement or evaluation process used to determine the value of carcasses or carcass portions at the packing level.

The statement of scope for each subcommittee follows:

Subcommittee F10.10: This specification covers the requirements for design and construction of electronic devices or systems for measuring composition or quality constituents of live animals, livestock, and poultry carcasses, and/or individual cuts of meat. Examples include but are not limited to half and whole carcasses, primals, subprimals, and boxed meat.

Subcommittee F10.20: This standard covers the test methods used to determine the accuracy of electronic devices that evaluate characteristics of livestock, meat, and poultry. These characteristics may or may not be used to determine a value. Companies with new devices are encouraged to contact ASTM to request modification of this standard to include its new technology.

Subcommittee F10.30: This standard covers the operational requirements for users of livestock, meat, and poultry evaluation devices used on live animals, carcasses, and individual cuts of meat when those devices provide data used in determining value for livestock and carcasses. Areas covered include installation, operator training, calibration, inspection and maintenance of these evaluation devices, and documentation of procedures for verifying raw data.

Subcommittee F10.40: This specification establishes standardized methods to collect and analyze data, document the results, and make predictions by any objective method for any characteristic used to determine value in any species using livestock, meat and poultry evaluation devices or systems.

All four of the standards have been through the subcommittee ballot process and are currently being posted for ballot by the entire F10 membership.

Subsequent updates of the Committee's work will present detailed information regarding the economic impact of the device currently being used to determine payment value for more than 80 percent of swine purchased in the United States. The USDA has estimated the value of swine produced in 2002 to be $7,486,000,000. Future updates will also outline the impact of the potential use of electronic devices for determining the purchase value of other species.

A study of the grade and yield characteristics of 149 lamb carcasses recently completed by Colorado State University compared the determinations from a Lamb Vision System with the determinations made by experienced human graders. A preliminary review of the data indicates that the electronic system is capable of providing grade and yield data that is more accurate than data provided by human graders. Look for an in-depth review of this study in the near future.

For additional information on F10 or on becoming a committee member, contact Dick Suiter (NIST) by e-mail at rsuiter@nist.gov or by phone at (301) 975-4406.

Update on OIML R21 for Electronic Taximeters

By: Juana Williams

In late June 2003, WMD began work to develop the U.S. position on the1st Committee Draft of proposed International Recommendation Number 21 "Taximeters (R21) for electronic

taximeter standards." The 1st Draft was distributed to the National Working Group (NWG) responsible for developing the U.S. position. NWG participants represent U.S. taximeter manufacturers and type evaluators, taxicab companies and associations, and officials that regulate those sectors. The NWG was asked to comment by September 1 on the 1st Draft.

The 1st Draft includes metrological requirements for electronic taximeter accuracy, design and operational requirements, electrical and other tests to determine compatibility for environmental factors (e.g., temperature, vibration, and humidity). The NWG reviewed the 1st Draft and compared the document to existing taximeter standards in NIST Handbook 44 Section 5.54. Taximeters, which apply to both mechanical and electronic taximeters. The NWG was also asked to identify significant differences between requirements in the 1st Draft and Handbook 44.

During September, WMD will complete an analysis of the NWG input to develop the U.S. position on the 1st Draft. The U.S. position on the 1st Draft must be received by the Secretariat (United Kingdom) by October 1, 2003. WMD anticipates there may be subsequent drafts and comment periods as the document moves through the development process.

Please contact Juana Williams at 301-975-3989 or by email at juana.williams@nist.gov if you are interested in the U.S. NWG or information on how work is progressing.

Revisions to Key OIML Documents

By: Ambler Thompson

The United States is the Secretariat for OIML TC3 Metrological control and TC3SC1 Pattern approval and verification. The international documents dealing with metrological control of measuring instruments using the processes of type approval and verification have not been revised in over fifteen years.

Currently the U.S. has developed and circulated to the international committee a proposal for combined revision of OIML Document 19 (D19), "Pattern evaluation and pattern approval" and D20 "Initial and subsequent verification of measuring instruments and processes" into a single document entitled "Principles of metrological control of measuring instruments: type approval and verification." The international comment period on the proposal closes October 1, 2003, after which the U.S. will be forming a national working group to develop this project.

Elements of additional OIML documents to be incorporated in the revision are:
D3 "Legal qualification of measuring instruments,"
R42 "Metal stamps for verification officers," and
R34 "Accuracy classes of measuring instruments."

The existing documents, which are out of date, do not include developments of the last fifteen years, such as the OIML certificate system, D27 "Initial verification of measuring instruments utilizing the manufacturer's quality management system," and the Draft Document, "Framework for a mutual acceptance arrangement (MAA) on OIML type evaluations." Consideration needs to be given to the appropriate conformity assessment options developed by ISO Council Committee on Conformity Assessment (ISO CASCO). This includes quality systems, product certification and accreditation. Consideration needs to be given as well to information technology and statistical methods to increase or decrease verification intervals based upon proven instrument performance.

If you are interested in participating in the national working group, contact Ambler Thompson, e-mail: ambler@nist.gov, or call 301-975-2333.

OIML Provides Numerous Opportunities

By: Ralph Richter

At the NCWM Annual Meeting in July 2003, Dr. Charles Ehrlich of NIST and Mr. Gilles Vinet of Measurement Canada gave a joint presentation entitled 'Current OIML Opportunities and Their Importance.' The presentation was given to discuss some current OIML activities and to discuss the opportunities that both Canada and the U.S. have to make important impacts on standards development at the international level that can benefit stakeholders in both countries.

The presentation emphasized that there are clear advantages to instrument manufacturers, businesses, consumers, and the economies of both countries through globally harmonized legal metrology requirements. Manufacturers will repeat the benefit of lower production costs since fewer different models of instruments will be needed for worldwide markets. There should also be lower costs for testing since the need for duplicative testing is reduced, and one-stop testing becomes more feasible. This translates into less-expensive, higher-quality instruments available to the businesses that use these instruments and, therefore, reduced costs for consumers.

One key message was that harmonizing requirements at the level of type evaluation should really have minimal impact on enforcement activities.

Many countries now adopt OIML standards outright, making it increasingly important that the U.S. and Canada both influence and harmonize with OIML requirements so that the manufacturers are able to market in all countries according to the same set of requirements to the maximum extent possible.

Several of the developing countries, besides adopting OIML technical requirements, also plan on adopting many of the elements of the OIML guidance documents -- such as OIML Document 1 (D1), which is a model law on metrology that is currently under revision. The U.S.

serves as the Secretariat of the committee responsible for this revision and is playing an important role in putting the U.S. perspective into this document. The Laws and Metric Group at NIST is leading this effort for the U.S.

Many aspects of OIML Recommendations go beyond just type evaluation and also pertain to enforcement activities, such as tolerances for initial and subsequent verification. Because of this, NIST believes that it is important for W&M officials to have the opportunity to review, comment, and provide technical expertise and experience on the OIML documents.

In the move towards global efficiency in legal metrology endeavors, it is important to see what others in the world are doing and see if there are possibilities for doing things more harmoniously.

In type evaluation, there are usually some initial technical differences between NTEP requirements and OIML requirements. The OIML process is a two-way street, where it is possible to bring strong U.S. technical perspectives to the negotiating table and have them accepted into OIML standards. During the presentation, several examples were given where the U.S. had strongly influenced the content of the OIML Recommendations.

A comparison study recently performed by John Elengo describes the differences between the OIML documents and the NCWM documents pertaining to load cells and non-automatic weighing instruments. NIST believes that such a process will serve as a good model for developing U.S. consensus positions in future revisions of other OIML standards and in the continuing move toward harmonization.

New opportunities for NCWM members to participate in OIML activities open up regularly. Some highlights of currently active OIML projects in the W&M arena are listed below:

- D1 "Elements for a Law on Metrology"
- D11 "General Requirements for Electronic Measuring Instruments"
- R59 "Moisture Meters for Cereal Grains and Oil Seeds"
- R76 "Non-automatic Weighing Instruments"
- R117 "Measuring Systems for Liquids other than Water"
- A new draft document "Automatic Instruments for Weighing Road Vehicles in Motion, Axle Loads"
- And, a new draft document "Electronic Taximeters."

Some of our current efforts in the area of weighing could have tremendous importance to international shippers of bulk commodities, such as grain and coal. There is evidence that some international customers might only accept our products if international standards were used to test the weighing instruments.

Other topics in OIML that are likely to be developed soon include Software Testing and an OIML Production-Meets-Type Program. The U.S. is secretariat of the OIML subcommittee on Conformity Assessment and will have the opportunity to lead the way on the Production-Meets-Type Program by presenting the U.S. position as a starting point for international consideration.

In summary, the joint presentation emphasized that there are many important activities in OIML, both going on now or about to take place, where the U.S. and Canada are poised to play an active and effective role.

Note: The International Legal Metrology Group (ILMG) in the Weights and Measures Division (WMD) of the National Institute of Standards and Technology (NIST) is responsible for coordinating U.S. participation in OIML and other international legal metrology organizations. Learn more about OIML at the OIML website at http://www.oiml.org on the Internet. Dr. Charles Ehrlich, Group Leader of the ILMG, can be contacted at charles.ehrlich@nist.gov or at 301-975-4834 or by fax at 301- 926-0647. Mr. Ralph Richter can be contacted at ralph.richter@nist.gov *or 301-975-4025.*

USDA Seeks Qualified Professional

The USDA, GIPSA Regional Office in Aurora, Colorado, has announced a job opening for a GS 9/11 Industrial Specialist. The Industrial Specialist in a regional office carries out enforcement of jurisdictional, competition and trade practice provisions of the Packer & Stockyards Act primarily by conducting investigative work, working with scale testing agencies, and related work pertaining to the scales and weighing requirements of the Act and regulations.

The job announcement can be found on the USA Jobs Web site. http://www.usajobs.opm.gov/
CASE EXAM ANNOUNCEMENT # 24-72-1018
Application packages must be postmarked by 09/29/2003.

Device-Related Training Materials on WMD's Web Site

By: Tina Butcher

Are you are preparing to give a training course in your jurisdiction or company or are you just looking for additional information on technical topics? If so, you may be interested in some of the device-related training materials posted on WMD's web site. Currently available on our web site are both course materials and presentations for the topics of "Retail Motor-Fuel Dispensers" and "Vehicle-Tank Meters." As we continue to update existing training materials and develop new training materials, we will post the updated information on our web site.

To access these materials, go to WMD's web site at www.nist.gov/owm. From the section titled "W&M Resources," select "NIST/WMD Training." Instructions for downloading the material are included on the web site.

If you have questions about the information or have difficulty downloading the information, please

contact Tina Butcher by e-mail at tbutcher@nist.gov or by telephone at 301-975-2196.

Calendar of Events

SEPTEMBER
7 – 9
Central Weights & Measures Association (CWMA) Interim Meeting
Jumers Castle Lodge
Bettendorf, IA
Contact: Pat Mercer, 517-655-8202

8 – 12
Course 302, Retail Motor-Fuel Dispensers
Ohio Regional Training Seminar
Findlay, OH
Contact: Ken Wheeler, 614-728-6290

11 – 13
NTETC Weighing Sector
Picadilly Inn
Fresno, California
Contact: Steve Patoray, 828-859-6178

14 - 19
Western Weights & Measures Association (WWMA) Annual Technical Conference
Picadilly Inn
Fresno, California
Contact: Clark Cooney, 503-986-4677

29 – Oct. 3
Course 302, Retail Motor-Fuel Dispensers
Ohio Regional Training Seminar
Wilmington, OH
Contact: Ken Wheeler, 614-728-6290

OCTOBER
1 - 2
Northeastern Weights and Measures Association (NEWMA) Interim Meeting
Holiday Inn
Cromwell, CT
Contact: Jim Cassidy, 617-349-6133

3 – 4
NTETC Measuring Sector
Hyatt Charlotte
Charlotte, NC
Contact: Steve Patoray, 828-859-6178

5 – 8
Southern Weights and Measures Association (SWMA) Annual Meeting
Hyatt Charlotte
Charlotte, NC
Contact: Winston Sutton, 919-733-3313

6 – 10
SWAP Regional Metrology Training
(Regional members only)
TX
Contact: Georgia Harris, 301-975-4014

13 – 17
MidMAP Regional Metrology Training
(Regional members only)
MI
Contact: Georgia Harris, 301-975-4014

20 – 24
NEMAP Regional Metrology Training
(Regional members only)
NH
Contact: Georgia Harris, 301-975-4014

26 – 28
National Industrial Scale Association (NIST) Fall Technical Conference
Louisville, KY
Contact: www.nisa.org

27 – 31
Basic Mass Seminar for Industry
NIST, Gaithersburg, MD
Contact: Georgia Harris, 301-975-4014
Applications at:
http://www.nist.gov/labmetrology

28 – 31
Ohio W&M Annual Training School
Holiday Inn East
Columbus, OH
Contact: Ken Wheeler, 614-728-6290

NOVEMBER
3 – 7
Intermediate Metrology Seminar
NIST, Gaithersburg, MD
Contact: Georgia Harris, 301-975-4014
Applications at:
http://www.nist.gov/labmetrology

5 – 8
Scale Manufacturers Association (SMA) Fall Meeting
LaPlaya Beach Resort
Naples, FL
Contact: Kimberly, SMA, 239-514-3441 x10

DECEMBER
1 – 5
Advanced Mass Hands-On Seminar
(Advanced Class is a Prerequisite)
NIST, Gaithersburg, MD
Contact: Georgia Harris, 301-975-4014
Applications at:
http://www.nist.gov/labmetrology

Course 302, Retail Motor-Fuel Dispensers
Ohio Regional Training Seminar
Canton, OH
Contact: Ken Wheeler, 614-728-6290

15 – 19
Course 302, Retail Motor-Fuel Dispensers
Ohio Regional Training Seminar
Findlay, OH
Contact: Ken Wheeler, 614-728-6290

2004

JANUARY
12 – 13
Measurement Science Conference (MSC)
Mass Short Course
Disneyland Hotel
Anaheim, CA
Contact: MSC, 866-672-6327 or msc-conf.com

15 – 16
Measurement Science Conference (MSC)
Disneyland Hotel
Anaheim, CA
Contact: MSC, 866-672-6327 or msc-conf.com

25 – 28
NCWM Interim Meeting
Hyatt Hotel
Bethesda, MD
Contact: NCWM, 240-632-9454 or www.ncwm.net

FEBRUARY
9-13
CaMAP Regional Metrology Training
Regional Members Only
Puerto Rico
Contact: Georgia Harris, 301-975-4014

23 – 27
Advanced Mass Hands-On Seminar
(Advanced Class is a Prerequisite)
NIST, Gaithersburg, MD
Contact: Georgia Harris, 301-975-4014
Applications at:
http://www.nist.gov/labmetrology

MARCH
22 – 26
SEMAP Regional Metrology Training
(Regional Members Only)
VA
Contact: Georgia Harris, 301-975-4014

APRIL
19 – 30 Basic Metrology Seminar for States
NIST
Gaithersburg, MD
Contact: Georgia Harris, 301-975-4014
Applications at:
http://www.nist.gov/labmetrology

MAY
2 – 6
Central Weights & Measures Association (CWMA) Annual Conference
Double Tree Hotel
Omaha, NE
Contact: Don Onwiler, 402-471-4292

3 – 7
WRAP Regional Metrology Training
Regional Members Only
CA
Contact: Georgia Harris, 301-975-4014

10 - 13
Northeastern Weights & Measures Association (NEWMA) Annual Meeting
Best Western Wynwood Hotel
Portsmouth, NH

17 – 21
Basic Mass for Industry
NIST, Gaithersburg, MD
Contact: Georgia Harris, 301-975-4014
Applications at:
http://www.nist.gov/labmetrology

JUNE
23 - 25
International Society of Weighing and Measurement (ISWM) 2004 Conference and Exhibition
Northern Kentucky Convention Center
Covington, Kentucky
Contact: Karen Hutchison, ISWM, 301-258-1115

JULY
11 – 15
NCWM Annual Meeting
Pittsburgh, PA
Contact: NCWM, 240-632-9454 or
www.ncwm.net

11 – 15
NCSLI 2004 Workshop & Symposium
Salt Lake City, UT
Contact: NCSLI, 303-440-3339 or
www.ncsli.org/conference

SEPTEMBER
11 – 17
Western Weights & Measures Association (WWMA) Annual Meeting
Holiday Inn
Sacramento, CA
Contact: Roger Macey, 916-229-3043

20 – 24 NEMAP Regional Metrology Training
(Regional Members Only)
WV
Contact: Georgia Harris, 301-975-4014

OCTOBER
4 – 8
SWAP Regional Metrology Training
(Regional Members Only)
TBD
Contact: Georgia Harris, 301-975-4014

18 – 22
MidMAP Regional Metrology Training
(Regional Members Only)
TBD
Contact: Georgia Harris, 301-975-4014

Northeast Weights & Measures Association (NEWMA) Interim Meeting
Holiday Inn
Cromwell, CT
Contact: Bill Donahoe, 860-713-6160

NOVEMBER
1 – 5
Intermediate Metrology Seminar
NIST, Gaithersburg, MD
Contact: Georgia Harris, 301-975-4014
Applications at:
http://www.nist.gov/labmetrology

For meetings and events for the American Petroleum Institute (API), please check the API website at www.api.org and click on the Meetings and Training Section under the "Energy Professional Site" bullet on the left-hand portion of the home page. Information for American Society for Testing and Materials (ASTM) meetings is available at www.astm.org on their Internet website. Click on the "Meetings" bullet on the left-hand portion of the home page. These meetings and seminars are updated on a continuous basis.

For information regarding American National Standards Institute (ANSI), click on the "Meetings and Events" bullet on their website at www.ansi.org.

If you want your meeting, conference or training session included in the Calendar of Events, please contact Lynn Sebring, 301-975-4006 (lynn.sebring@nist.gov).